

BRIEF SUMMARY

Page for Substitution

The invention **MULTI KNIFE CUTTING DEVICE** device D with independent knife movement, enables the use of multiple knives concurrently for cutting vegetables in kitchens. Six knives, independently mounted in six slots on a fulcrum bolt in a slotted guide frame, move on the fulcrum axis in an arc to cut the vegetables. The knives are guided throughout the cutting stroke by the guides in the frame. The knives have independent handles, enabling concurrent use or use in pairs or use individually, depending on need.

The slotted guide frame comprises seven guide members bolted together with 2 mm spacers at the bottom to create six slots, a location for the fulcrum bolt and a vegetable enclosure. There are slots below the vegetable enclosure to receive the knives after the cut.

The vegetables are placed in the enclosure inside the guide frame next to the knives.

When the knives are pressed down by holding the extended handles, they cut the vegetables in an inclined action and enter the slots below the vegetables in the frame. A clean cut is achieved with all the cut pieces lying free on the enclosure platform.

The above described embodiment is the most versatile embodiment.

There are two other embodiments of the invention, with vertical movement of the knives in one and circular movement in the other, for cutting the vegetables.

Distinctive features of the invention and advantages.

- This single device is capable of slicing whole potatoes, cutting slices into fingers, cutting fingers into small pieces, without changing any knives. Safety is much better as there is no need to hold the vegetables by hand during cutting.
- The knives clear the platform where the vegetables are kept, at the end of the cutting stroke. This ensures that the cut pieces are not stuck between the knives, which is common with prior art.
- The frame guides, guide the knives throughout the cut ensuring that there is no misalignment of guides and knives, resulting in smooth cut; this feature being non-existent in prior art.
- The vegetable enclosure right next to knives and the long handles ensure mechanical advantage between 4 and 5 which is rare in prior art.
- The enclosure and guiding of the knives results in minimum bending of knives during cutting, which is an improvement over prior art.
- The mounting of knives directly on the guide frame makes the device compact and unlikely to interfere with the vegetable, which are problems in prior art.

Brief Description of Drawing views after the amendments.

The details of deletion and new drawings are in column, 3

Fig no	Sheet no	View description.....	Remarks.....
1	1/8	Device A, Elevation	No change
2	1/8	Device A, Plan	Ditto
3	2/8	Device A, End view	Ditto
4	2/8	Device A, Section AA of fig 1, Knife mounting	Ditto
5	3/8	Device A, Part 17, Elevation view	Ditto
6	3/8	Device A Section BB, vegetable support slotted	Ditto
		Figures 7,8,9,10, deleted	Amendment 1.1
11	6/8	Device C, Elevation, knife assembly.	Ditto
12	6/8	Device C, Plan, knife assembly	Ditto
13	6/8	Device C, Section XX, joint of board / end stop	Ditto
14	6/8	Device C, board plan view	Ditto
		Figures 15,16,17,18,19,20,21, deleted. Amendments> Figures 22 to 32 are new. Details in amendments.	1.2,1.3,1.4
22	11	Device B- Elevation view, knives horizontal	Amendment 1.1
23	11	Device B-View of guide frame-direction A in fig.22, without knives.	Amendment 1.1
24	12	Device B – Variation –knives stationary- inverted position . Elevation view.	Amendment 1.3
25	12	Device B Variation, view B, guide handle	Amendment 1.3
26	12	Device B Variation, End view, direction A	Amendment 1.3
27	12	Device B Variation, Detail C, knife & guide mounting on fulcrum bolt	Amendment 1.3
28	13	Device D, Independent knife movement, Perspective view	Amendment 1.4
29	14	Device D, Independent knives, Elevation view	Amendment 1.4
30	14	Device D, Independent knives, Cross section at fulcrum	ditto
31	14	Device D, Independent knives, End view	ditto
32	14	Device D, Independent knives, Knife end view	ditto

- Danger of knife slipping
- Cutting finger chips is laborious
- Both hands are to be used, one for holding, one for cutting
- Reluctance to do the job as it is tedious work.
- Getting uniform size is difficult
- Damage to knife handle due to constant pressure

This invention should not be compared with food processors as they are motorized and the type of cutting is not comparable.

The Rotary type manual devices for vegetable cutting are also not comparable as sheet metal slits are used for cutting and they cannot be compared to knives for cutting quality.

I was motivated to invent a more productive mechanism after seeing the drudgery inherent in cutting vegetables especially if one happens to be a vegetarian.

BRIEF SUMMARY

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This invention makes possible the use of several knives at a time in assembled form in conjunction with a special board, having a platform or grooves to perform vegetable cutting / dicing jobs in the kitchen both at home and in commercial establishments. This invention can also be used for cutting jobs other than Vegetables wherever it is practical. The knife assembly will not work if the special board is not used. Four different embodiments of the invention based on the mode of cutting action, will be described in the ensuing pages. They are named Device A, Device B, Device C, Device D.

The advantages are: -

- * The increase in productivity
- o The time saving
- o Increased safety
- o No fear of cutting fingers
- o Even unskilled persons can do the job after a few minutes training
- o Choice of different sizes in the cut pieces
- o Uniformity in size
- o Use of lever action to gain mechanical advantage
- o Elimination of pressure induced injuries on the knife holding fingers
- o As the time taken is reduced, it results in cost reduction

As the job is done faster, vegetable cutting is no longer a tedious job. The monotony and repetitive job nature is reduced drastically. One can comfortably cut with 7 knives at a time.

There is psychological gain for the person who does vegetable cutting as he has an efficient device, He need not be afraid of injuring the fingers. Also he doesn't need long experience and special skills. There is no fear of fast moving motorized blades. Increase of productivity in cutting is achieved by using several knives assembled in a frame used in conjunction with a special board having a platform or grooves. The vegetables are supported on the platform that has slots in it, to receive the knives after the cutting is complete. In embodiment/device C there is no platform. Instead there are grooves in the board.

Safety is achieved by eliminating the need to hold the vegetables during cutting.

BRIEF DESCRIPTION OF DRAWING VIEWS.

<u>Fig. No.</u>	<u>Sheet no.</u>	<u>Details</u>
1	1/8	Elevation- Device A
2	1/8	Plan- Device A
3	2/8	End view- Device A
4	2/8	Section AA ,Fig 1, Part 2, Knife assembly
5	3/8	Elevation, Part 17, Device A
6	3/8	Section BB, Fig 1, Part 5,13.
7	4/8	Plan view without part 15, Device B
8	4/8	Elevation view, Device B
9	5/8	End view, Part 6,7 – Device B
10	5/8	U frame, part 15, Details, Device B
11	6/8	Knife assembly elevation, Device C
12	6/8	Knife assembly plan view, Device C
13	6/8	Section XX in Fig. 14
14	6/8	Board part 7, plan view , Device C
15	7/8	Section AA of Fig. 16, Knife & Slots
16	7/8	Elevation, Device B , Heavy duty model
17	8/8	End view, Device B- Direction C in Fig 16
18	8/8	Continuation of Fig 16, left side
19	9	Device B, using different cutting position
20	10	Device D, Elevation view
21	10	Device D, Plan view.

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